

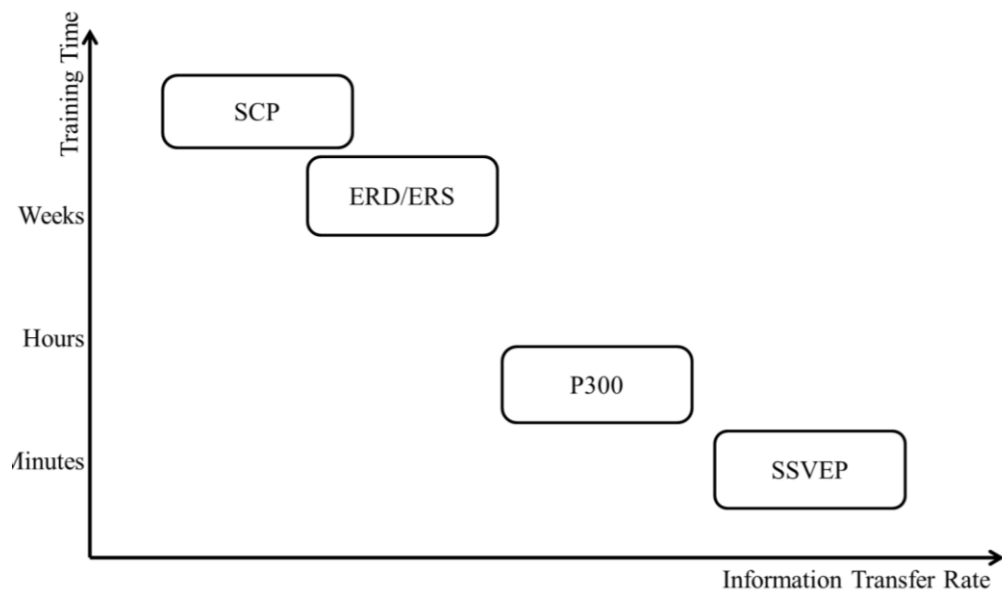
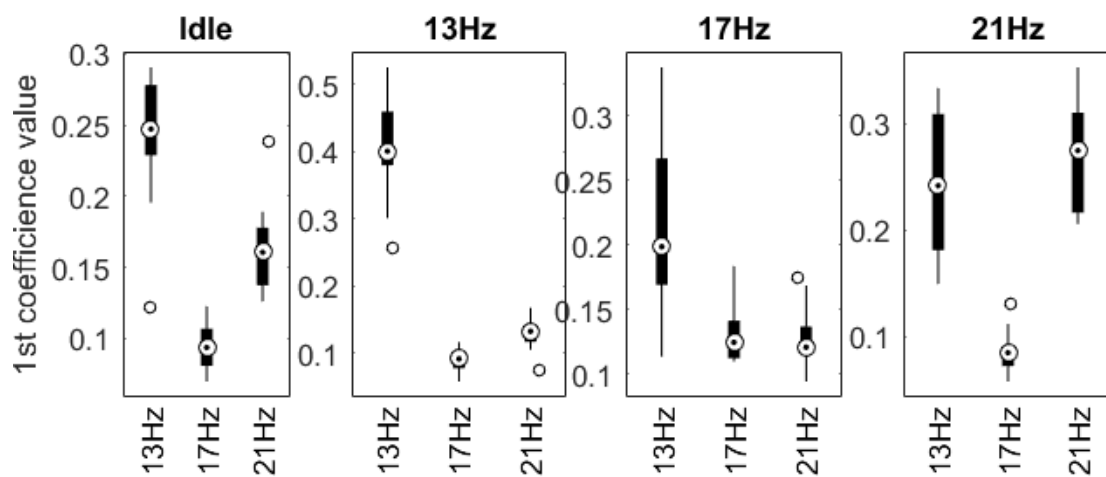
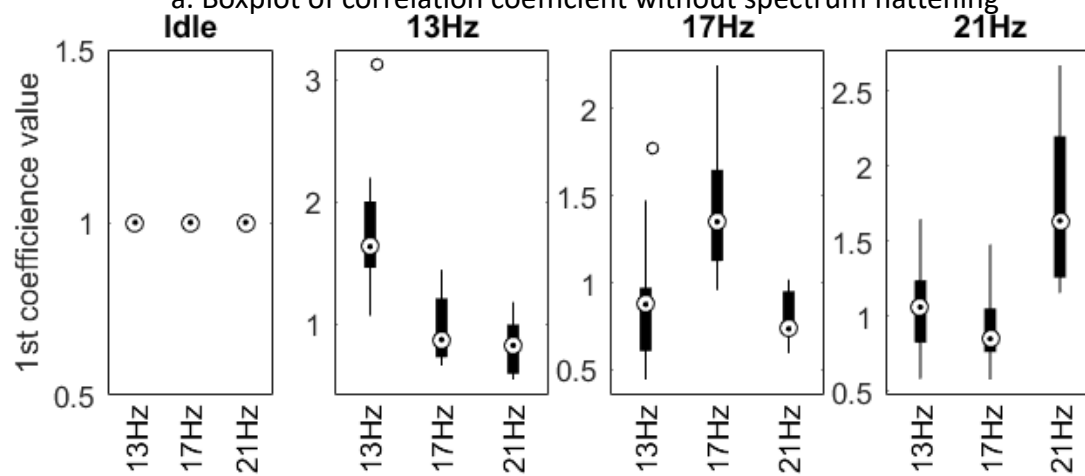


Figure 1



a. Boxplot of correlation coefficient without spectrum flattening



b. Boxplot of correlation coefficient after spectrum flattening

Figure 3

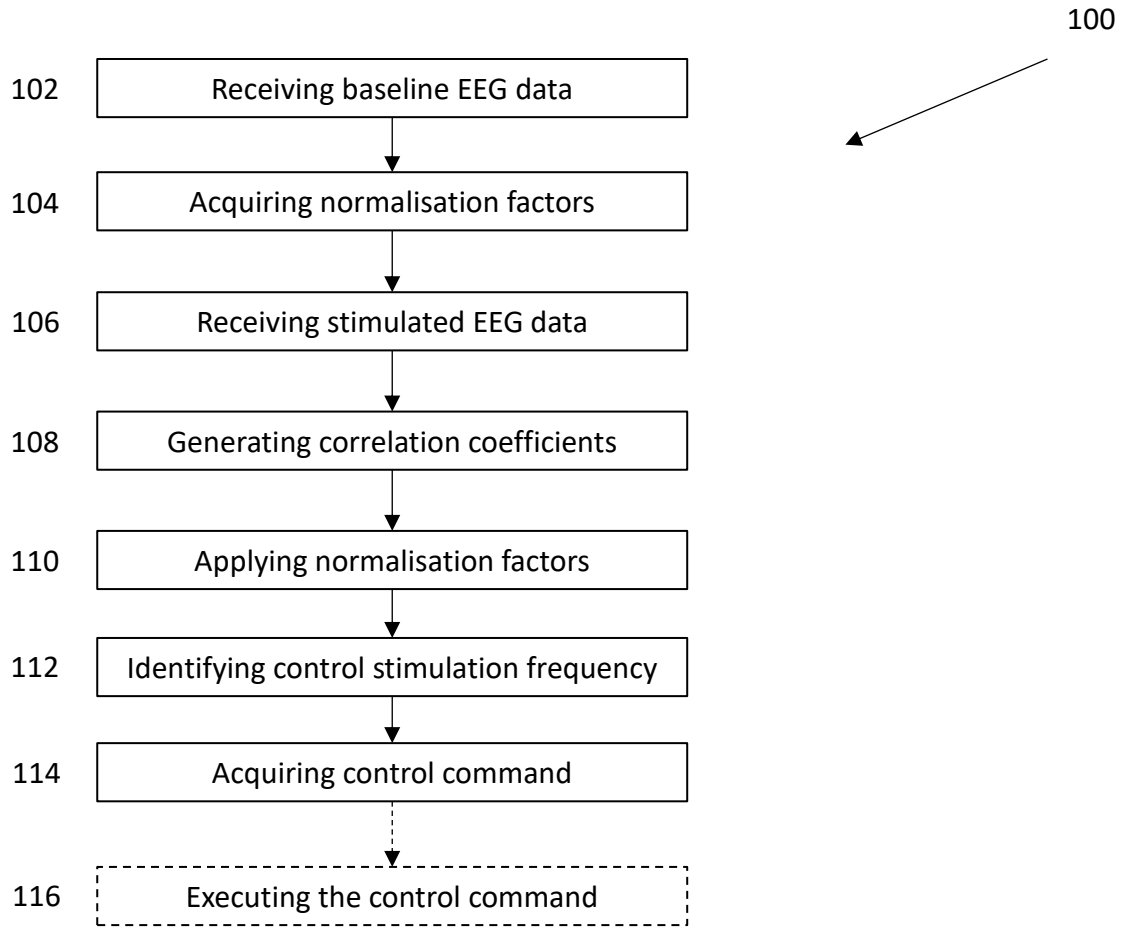


Figure 2

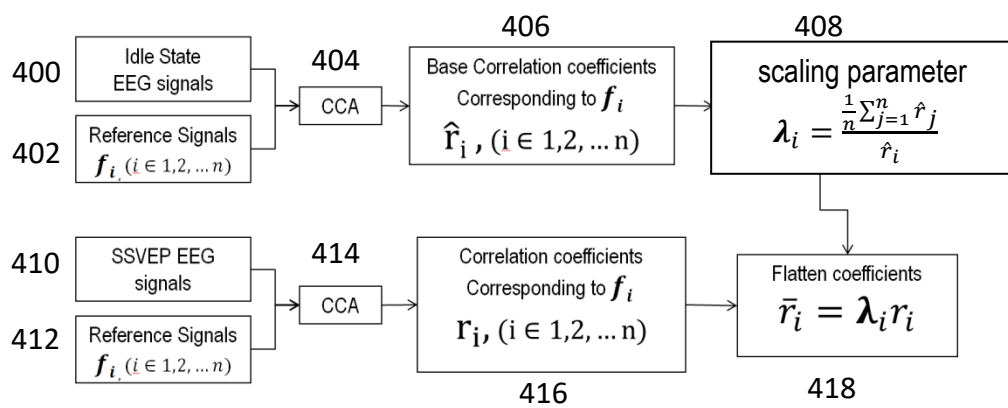


Figure 4

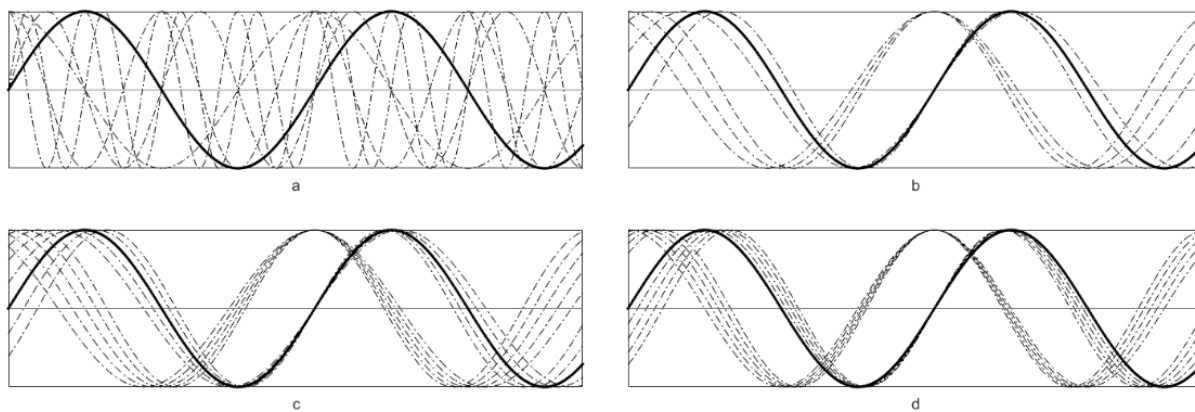


Figure 5

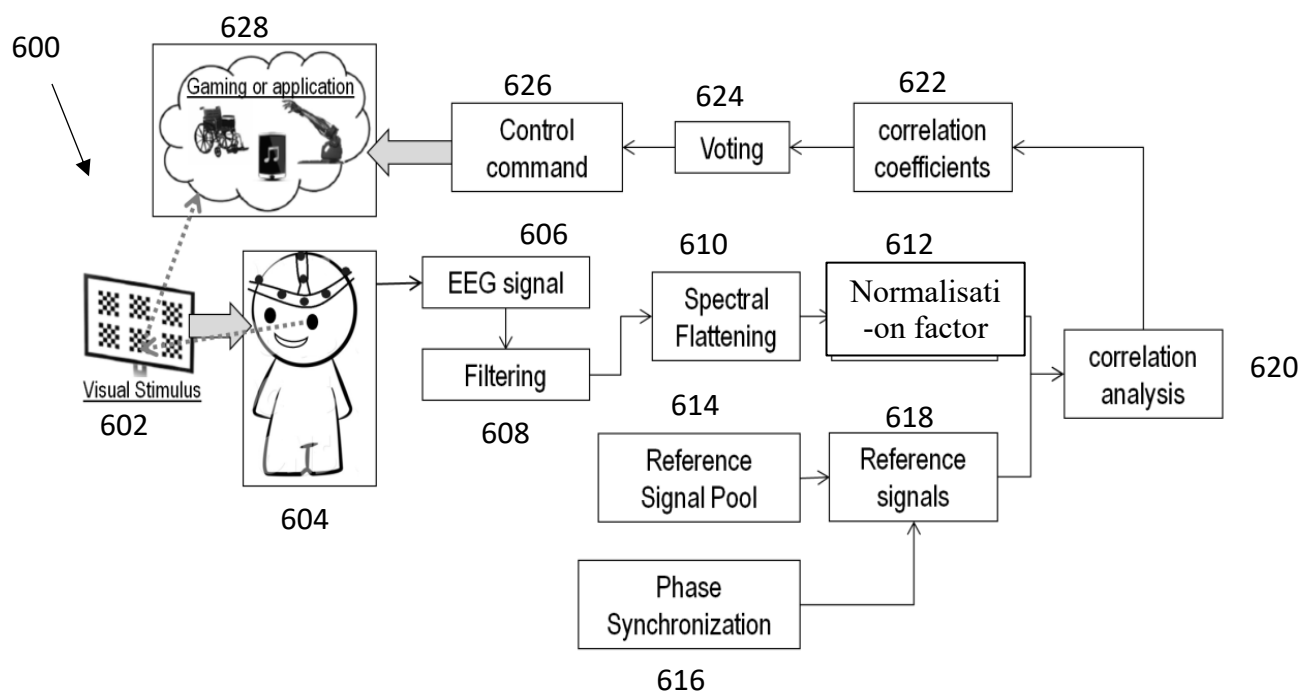
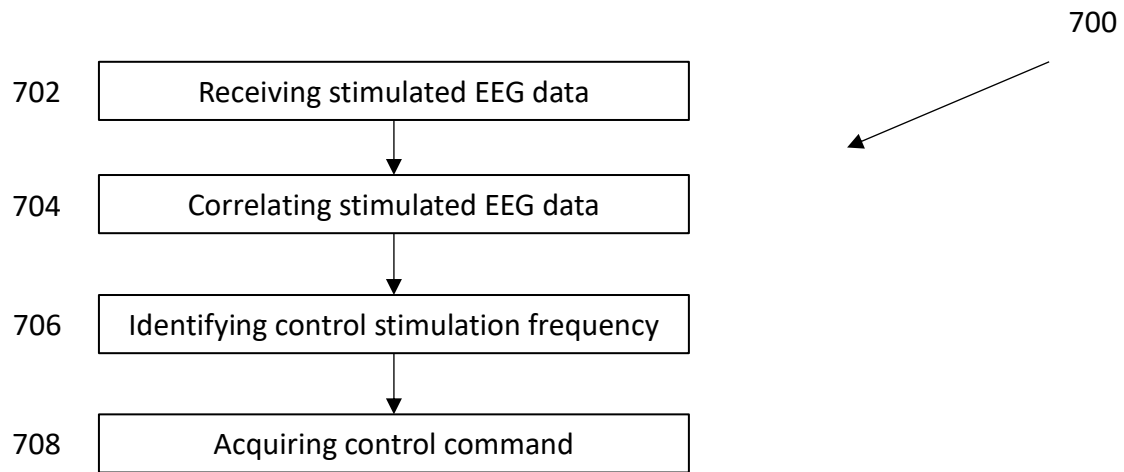
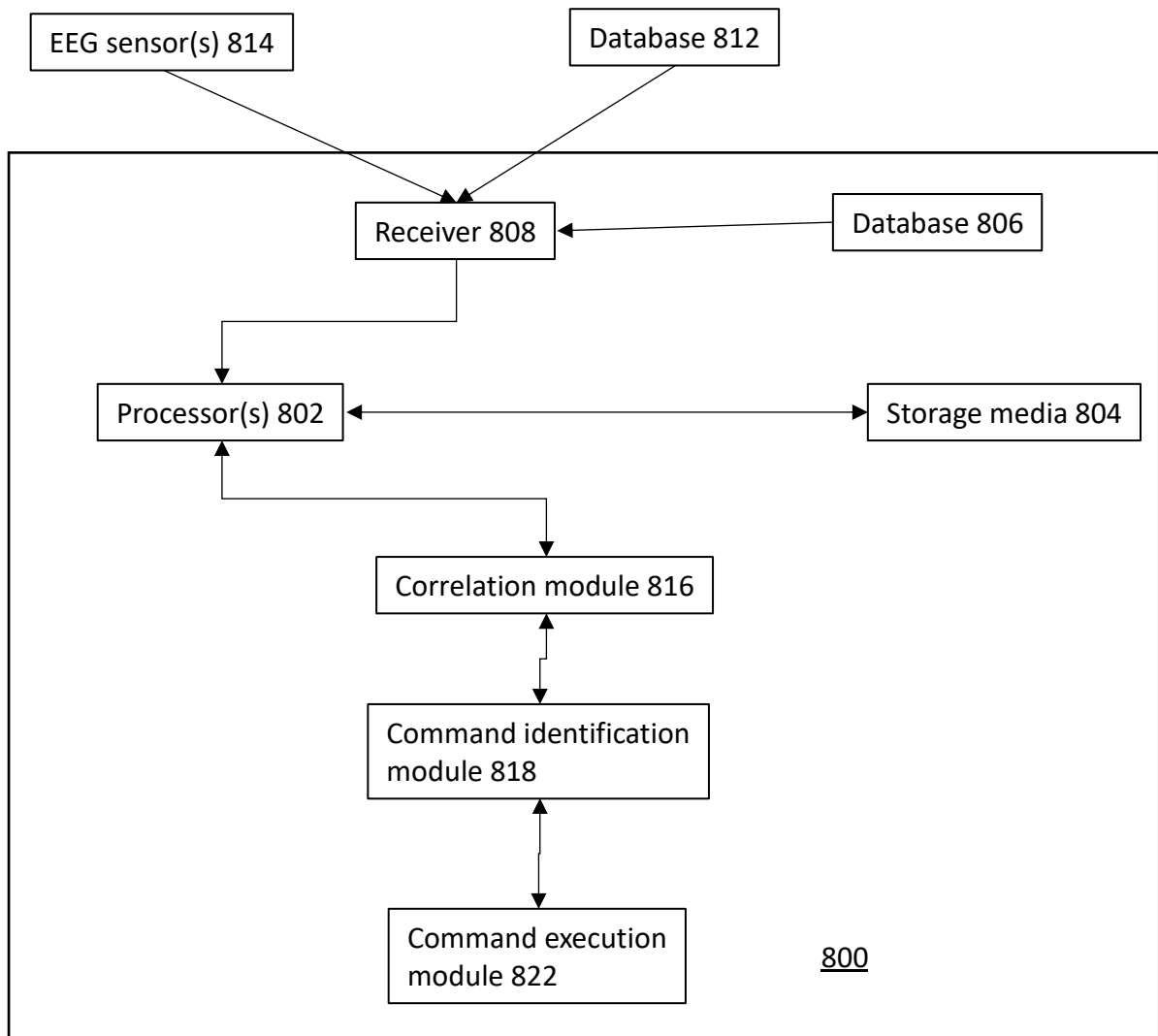


Figure 6

**Figure 7****Figure 8**

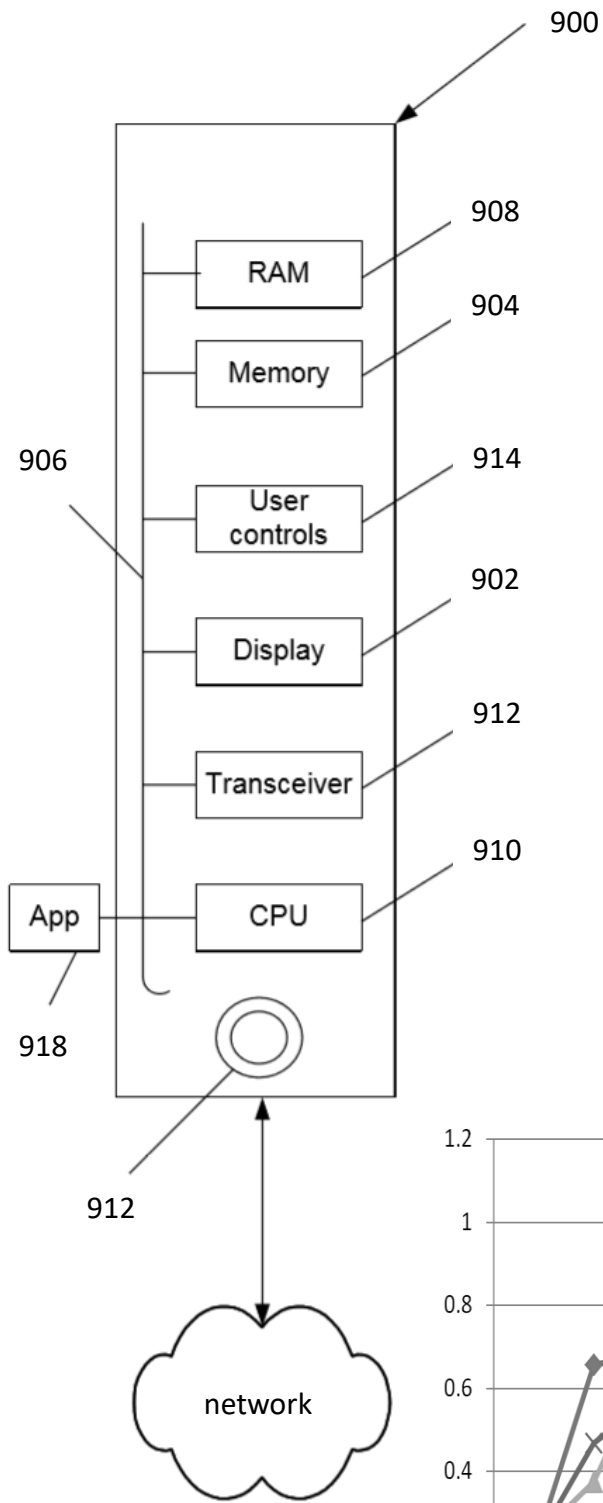


Figure 9

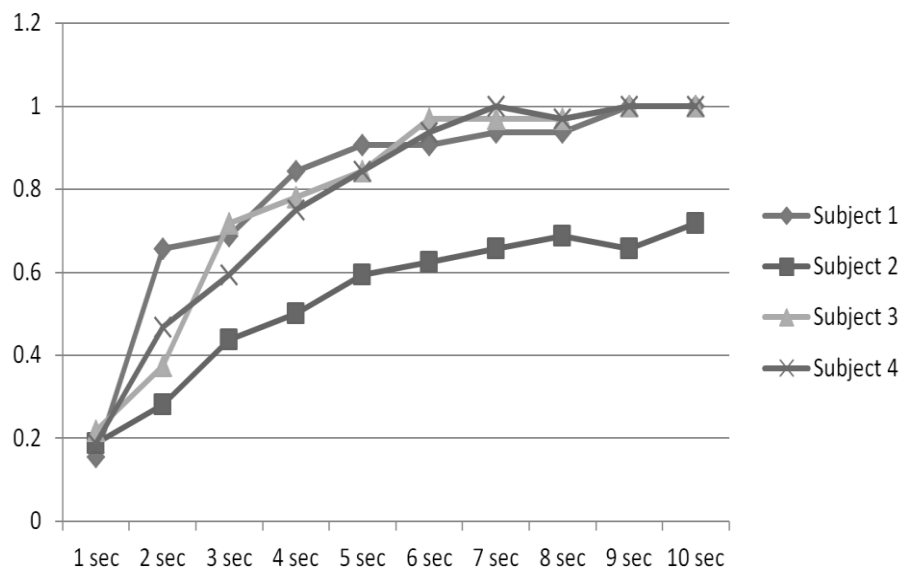


Figure 15

```

% X – multi-channel EEG
% Y – reference signal
z = [X Y];
% calculate covariance
m = size(x,1);
C = (x' * x) / (m-1);
sx = size(X,1);
sy = size(Y,1);
Cxx = C(1:sx, 1:sx);
% calculate inversion matrix
invCxx = Inverse(Cxx);
Cxy = C(1:sx, sx+1:sx+sy);
Cyx = Cxy';
Cyy = C(sx+1:sx+sy, sx+1:sx+sy);
invCyy = inv(Cyy);
% calculate eigen value
[Wx,r] = Eigenvalues(invCxx*Cxy*invCyy*Cyx);
% canonical correlations
r = sqrt(real(r));
% return the first r
r1 = real(r(1));

```

Figure 10

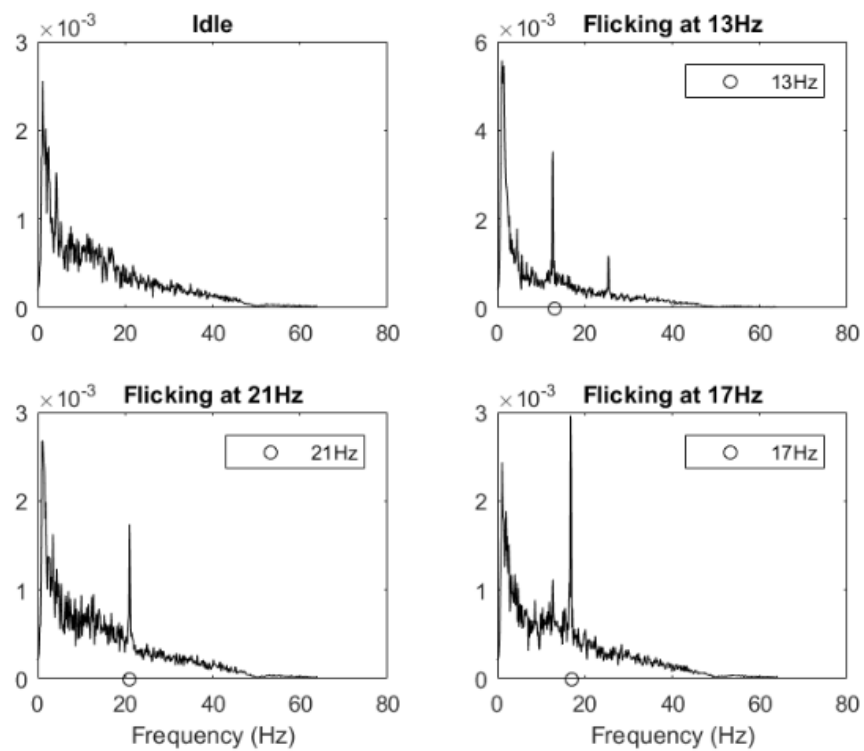


Figure 11

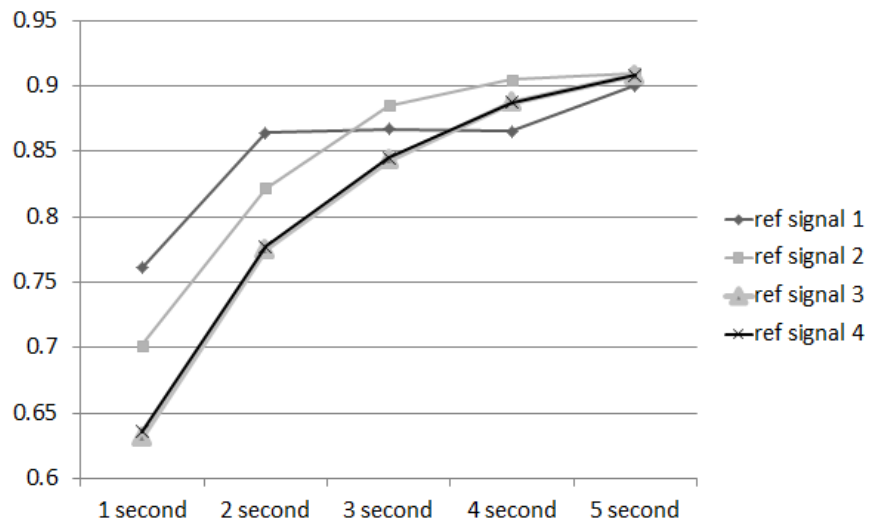


Figure 12

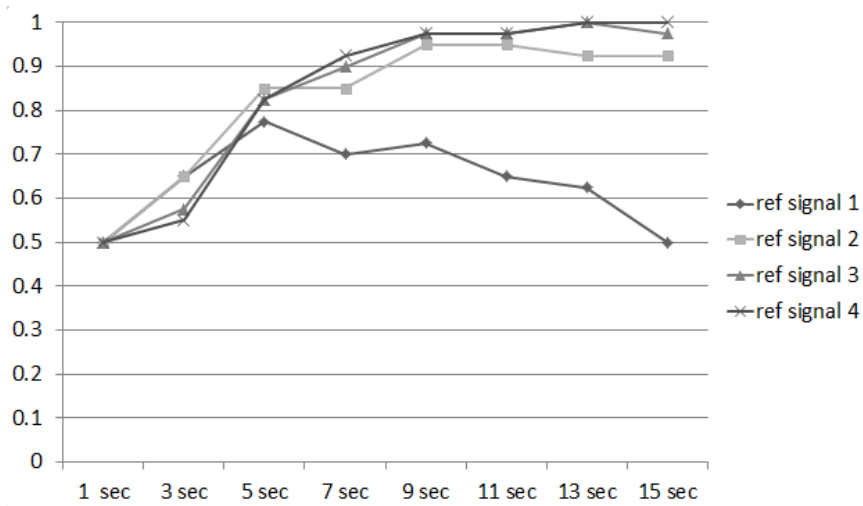


Figure 13

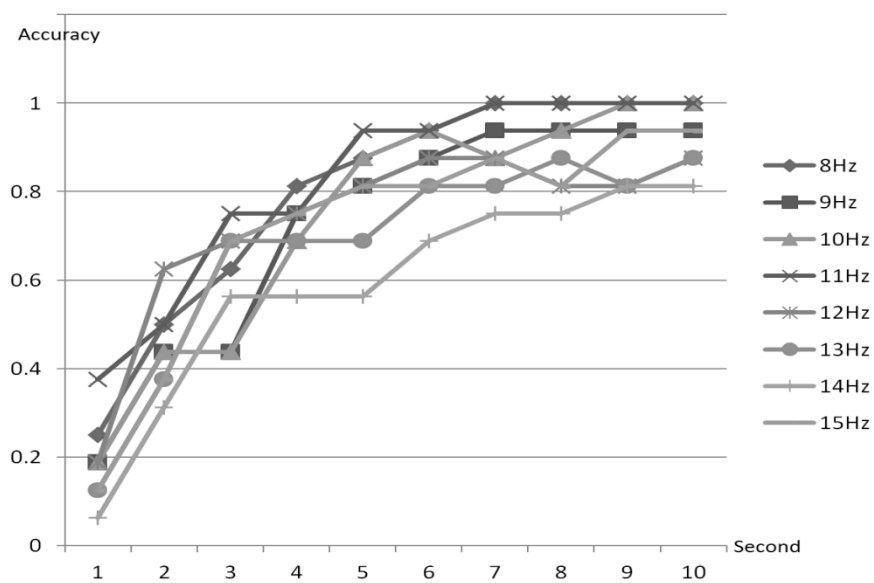


Figure 14